Distance Education for Malawian Farmers

Sub-Saharan Africa

Outline

- Introduction
  - Related discussions so far
  - Questions to think about
- Country background
  - History
  - Population
  - Education
  - Farming
  - Current natural sciences projects
- Knowledge transfer
  - Most appropriate learning format
  - Most appropriate technology
- Ideal DE agriculture program in Malawi
- Conclusion

Introduction

Classroom discussion concerning Africa so far:

- Colonialism and globalization
- The digital divide
- Consortium model for DE in developing countries
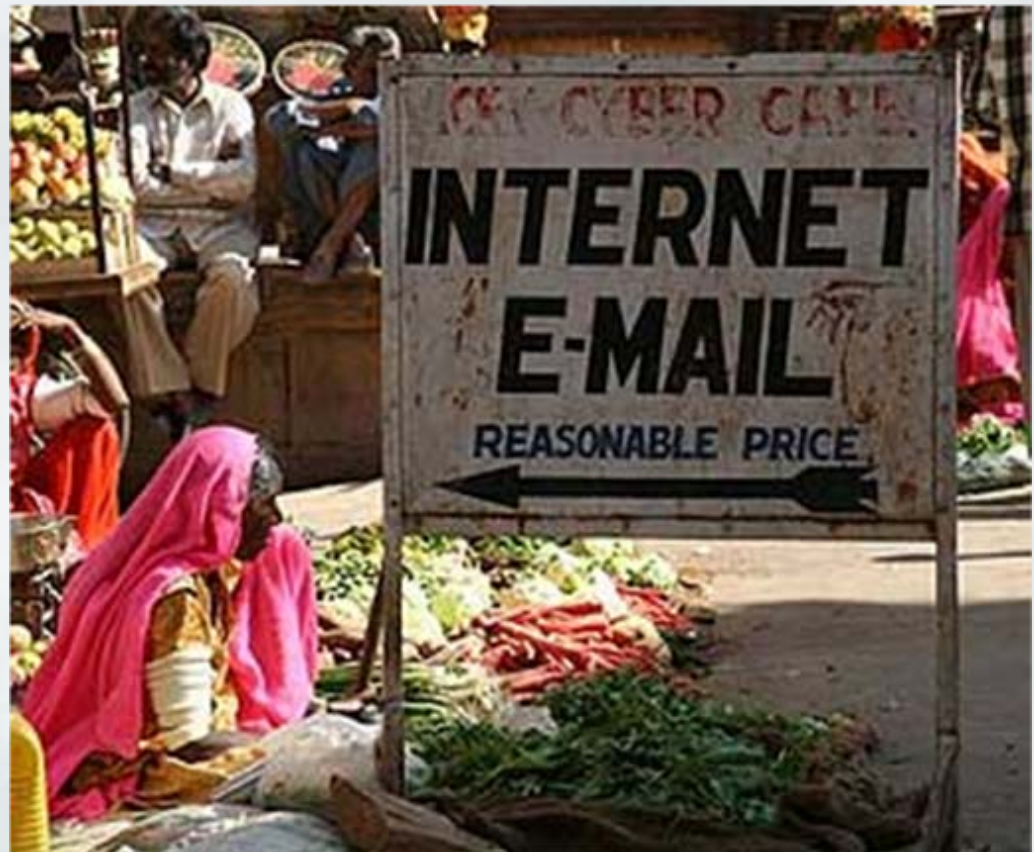- Costing issues in teacher development
- Learning by radio

Colonialism and Globalization

- Colonialism – The huge changes it brought to African culture.
- The development project and globalization.

The Digital Divide

- Sarah Gauvreau discussed the digital divide, and how access to technology can be a limiting factor to development.

Classroom Education Development

- Hugh Garven introduced the idea of consortiums – groups of educational institutions – as a model for DE in developing countries.
- Stephen Lobo talked about costing issues in Sub-Saharan Africa; particularly how it affects teacher development.

Informal Learning by Radio

- Katherine Spencer discussed Nigerian women who learn by radio.

Pre-presentation questions to ponder…

- What kind of education is suitable for a primarily agricultural society?
- How does one best address a population with a very young median age?
- What distance technologies can be deployed to reach a population with an average per capita annual income of 900 USD, where 82.8% of the population is rural?

History

Tribal rule: Pre-1891

British colony: 1891-1964

Independent: 1964-Present

Presidents:
Dr. Hastings Kamuzu Banda (1964-1994)

Bakili Muluzi (1994-2004)

Dr. Bingu wa Mutharika (2004-present)

Environment - Population

Society

45.8% - 0-14 years of age
51.5% - 15-64 years of age
2.7% - 65 or older
Median age - 16.8 years

Gender & Sexuality

- 11.9% of population has HIV
- 68,000 people died of AIDS in 2007 alone
- Women are, on average, less educated

Environment - Education

Education & literacy
Free primary education (Grades 1-8)
Compulsory education ages: 6-13
Malawi spends 5.8% of GDP on education

Challenges
60% literacy rate
Shortage of teachers, facilities, furniture, supplies, even water

Environment - Farming

- Agrarian society.
- Food crops include corn, sorghum, tapioca, macadamia nuts and potatoes.
- Commercial crops include sugarcane, tea, cotton and tobacco.
- Pests such as locusts are a frequent threat.
- Drought is also a frequent problem.

Environment - Current Projects

- Southern Africa Flow Regimes from International Experimental and Network Data (SA FRIEND).
- Sustainable Integrated Management and Development of the Arid and Semi-Arid Region of Southern Africa programme (SIMDAS).

Environment - Need for information

- Watch a video on Malawian farmers asking questions about climate change.

Transfer of Knowledge

One approach: Give them new communication tools

<u>One Laptop Per Child (OLPC)</u>
Mission Statement: "...providing each child with a rugged, low-cost, low-power, connected laptop with content and software designed for collaborative, joyful, self-empowered learning." (http://laptop.org/en/vision/index.shtml)

- Currently 199 USD per laptop
- Runs Linux Operating System
- Users can create content
- Networkable
- Targeted at school children
- Bought in bulk usually by schools or the government

OLPC

Difficulties

Price

Access

Audience

Skills

Another approach: Domestic Educational programs

Story Workshop (http://www.storyworkshop.org)

- Story Workshop disseminates information through radio programming, low literacy information flyers, theatre, training, and community dialogue.
- Currently dealing with issues such as HIV/AIDS, health, food security, human rights and democracy, gender, and the environment.

Radio Programs

Local radio listening club.

Woman practicing farming techniques learned through the radio program.

Here is a sample
radio broadcast.

Theatre

Here, locals watch actors depict struggles during a conflict over water.
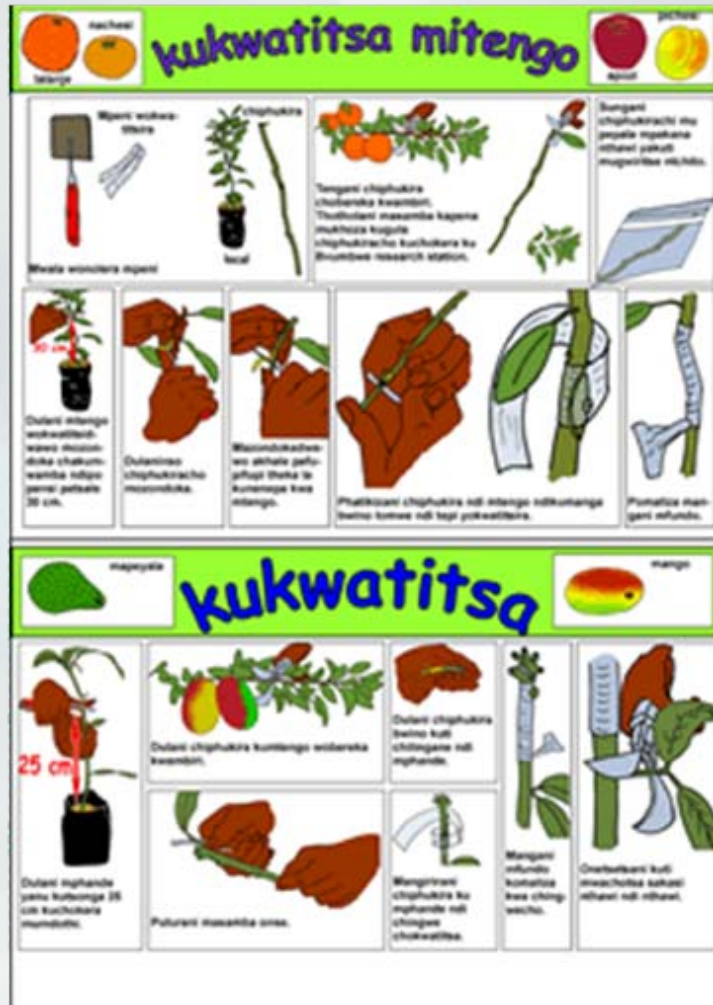
Radio Debates/Roundtable Discussions

"Are Fertilizer Subsidies a Solution to Hunger?"
radio debate

"Do NGO's Create Dependency?" Roundtable discussion.

"Low literacy" information brochures

Brochure on budding and grafting

Women reading information on the calendar

Why is Story Workshop so successful?

- Runs locally
- Uses local learning style
- Uses local real-life examples
- Uses attainable technology and tools
- Reaches out to audience, rather than asking them to come.
- Allows participation from all members of the family, including women
- Uses self-program evaluation, including follow-up surveys and focus group interviews, to make sure the intended outcomes were achieved

Timely delivery of information

Mobile Learning

Mobile Learning (mLearning)

- Mobile phones as a teaching tool
- SMS (short message service) messages as a means of disseminating information asynchronously
- Can be used as a means of synchronous communication with instructors and peers
- Currently in use succesfully in Asia and gaining relevance in Africa
- Major growth potential as phones become more and more capable.

Historical Access to Communication Technology in Sub-Saharan Africa

- Figure (a) Mobile and fixed telephone subscribers per 100 inhabitants in Africa, 1995-2004
- Figure (b) annual average percentage growth in mobile network subscribers, 1999-2004, world regions.

Figures from Power, T. & Sankale, J. (2009). Mobile technologies: Current practices, future possibilities in C. Vrasidas, M. Zembylas, G. V. Glass (Eds.), *ICT for Education, Development & Social Justice*.
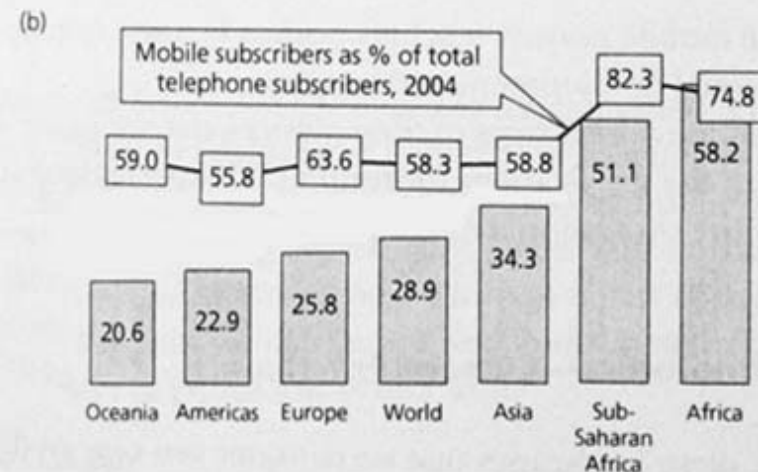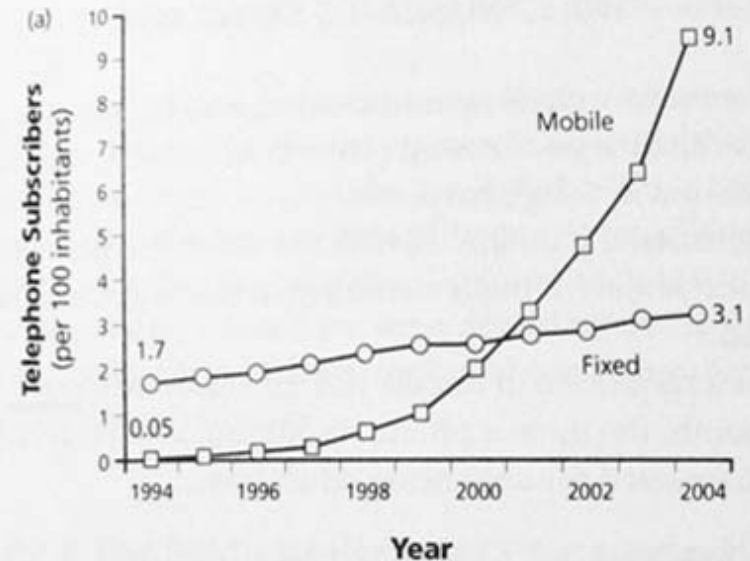
2009 Malawian Access to Communication Technology

- 236,000 telephone lines in use (1.5% of the population)
- 315,000 internet users (2% of the population)
- 1.78 million mobile phone users (13% of the population)

An ideal agriculture DE program in Malawi would:

- Utilize existing research from international collaborations and OpenCourseWare content.
- Use an educational format that is appropriate for local learning culture to distribute relevant information.
  - Create radio programming on agriculture methods
  - Create radio listening club so farmers have a place to discuss difficulties they encounter
  - Use jingles to make farming tips easier to remember
  - Distribute pictorial-based material
- Make use of the high mobile device ownership by distributing timely information through mobile devices
- Allows synchronous communication between peers and between instructors and peers via mobile device.

Conclusion

- Malawi faces many challenges, including food shortages, natural disasters, disease, and limited access to formal education.
- Citizens need information in order to improve their situation.
- Computers and the internet are currently not the appropriate technologies to distribute the needed information in Malawi.
- Story Workshop and programs like it are producing excellent results, partly because of the relevant program format.
- Mobile phones, due to their popularity, are a good means of improving delivery time and increasing interaction among learners.

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